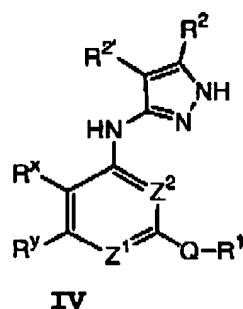


This listing will replace all prior versions, and listings, of claims in the application. Please amend the claims as follows:

Listing of Claims:

1. (Previously Presented) A compound of formula IV:



or a pharmaceutically acceptable derivative thereof, wherein:

Z^1 is nitrogen or $C-R^8$ and Z^2 is nitrogen or CH , wherein one and only one of Z^1 or Z^2 is nitrogen;

Q is selected from $-N(R^4)$, $-O-$, $-S-$, $-C(R^6)_2-$, 1,2-cyclopropanediyl, 1,2-cyclobutanediyl, or 1,3-cyclobutanediyl;

R^x and R^y are independently selected from $T-R^3$ or $L-Z-R^3$, or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-7 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;

R^1 is $T-(Ring D)$;

$Ring D$ is a 5-7 membered monocyclic ring or 8-10 membered bicyclic ring selected from aryl, heteroaryl, heterocyclyl or carbocyclyl, said heteroaryl or heterocyclyl ring having 1-4 ring heteroatoms selected from nitrogen, oxygen or sulfur, wherein each substitutable ring carbon of $Ring D$ is independently substituted by oxo, $T-R^5$, or $V-Z-R^5$, and each substitutable ring nitrogen of $Ring D$ is independently substituted by $-R^4$;

T is a valence bond or a C_{1-4} alkylidene chain, wherein when Q is $-CH(R^6)-$, a methylene unit of said C_{1-4} alkylidene chain is optionally replaced by $-O-$, $-S-$, $-N(R^4)-$, $-CO-$, $-CONH-$, $-NHCO-$, $-SO_2-$, $-SO_2NH-$, $-NHSO_2-$, $-CO_2-$, $-OC(O)-$, $-OC(O)NH-$, or $-NHCO_2-$;

Z is a C₁₋₄ alkylidene chain;

L is -O-, -S-, -SO₂-, -N(R⁶)SO₂-, -SO₂N(R⁶)-, -N(R⁶)-, -CO-, -CO₂-, -N(R⁶)CO-, -N(R⁶)C(O)O-, -N(R⁶)CON(R⁶)-, -N(R⁶)SO₂N(R⁶)-, -N(R⁶)N(R⁶)-, -C(O)N(R⁶)-, -OC(O)N(R⁶)-, -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -C(R⁶)₂N(R⁶)C(O)-, -C(R⁶)₂N(R⁶)C(O)O-, -C(R⁶)=NN(R⁶)-, -C(R⁶)=N-O-, -C(R⁶)₂N(R⁶)N(R⁶)-, -C(R⁶)₂N(R⁶)SO₂N(R⁶)-, or -C(R⁶)₂N(R⁶)CON(R⁶)-;

R² and R^{2'} are independently selected from -R, -T-W-R⁶, or R² and R^{2'} are taken together with their intervening atoms to form a fused, 5-8 membered, unsaturated or partially unsaturated, ring having 0-3 ring heteroatoms selected from nitrogen, oxygen, or sulfur, wherein each substitutable ring carbon of said fused ring formed by R² and R^{2'} is independently substituted by halo, oxo, -CN, -NO₂, -R⁷, or -V-R⁶, and each substitutable ring nitrogen of said ring formed by R² and R^{2'} is independently substituted by R⁴;

R³ is selected from -R, -halo, -OR, -C(=O)R, -CO₂R, -COCOR, -COCH₂COR, -NO₂, -CN, -S(O)R, -S(O)₂R, -SR, -N(R⁴)₂, -CON(R⁷)₂, -SO₂N(R⁷)₂, -OC(=O)R, -N(R⁷)COR, -N(R⁷)CO₂(C₁₋₆ aliphatic), -N(R⁴)N(R⁴)₂, -C=NN(R⁴)₂, -C=N-OR, -N(R⁷)CON(R⁷)₂, -N(R⁷)SO₂N(R⁷)₂, -N(R⁴)SO₂R, or -OC(=O)N(R⁷)₂;

each R is independently selected from hydrogen or an optionally substituted group selected from C₁₋₆ aliphatic, C₆₋₁₀ aryl, a heteroaryl ring having 5-10 ring atoms, or a heterocyclyl ring having 5-10 ring atoms;

each R⁴ is independently selected from -R⁷, -COR⁷, -CO₂(optionally substituted C₁₋₆ aliphatic), -CON(R⁷)₂, or -SO₂R⁷;

each R⁵ is independently selected from -R, halo, -OR, -C(=O)R, -CO₂R, -COCOR, -NO₂, -CN, -S(O)R, -SO₂R, -SR, -N(R⁴)₂, -CON(R⁴)₂, -SO₂N(R⁴)₂, -OC(=O)R, -N(R⁴)COR, -N(R⁴)CO₂(optionally substituted C₁₋₆ aliphatic), -N(R⁴)N(R⁴)₂, -C=NN(R⁴)₂, -C=N-OR, -N(R⁴)CON(R⁴)₂, -N(R⁴)SO₂N(R⁴)₂, -N(R⁴)SO₂R, or -OC(=O)N(R⁴)₂;

V is -O-, -S-, -SO₂-, -N(R⁶)SO₂-, -SO₂N(R⁶)-, -N(R⁶)-, -CO-, -CO₂-, -N(R⁶)CO-, -N(R⁶)C(O)O-, -N(R⁶)CON(R⁶)-, -N(R⁶)SO₂N(R⁶)-, -N(R⁶)N(R⁶)-, -C(O)N(R⁶)-, -OC(O)N(R⁶)-, -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -C(R⁶)₂N(R⁶)C(O)-, -C(R⁶)₂N(R⁶)C(O)O-, -C(R⁶)=NN(R⁶)-, -C(R⁶)=N-O-, -C(R⁶)₂N(R⁶)N(R⁶)-, -C(R⁶)₂N(R⁶)SO₂N(R⁶)-, or -C(R⁶)₂N(R⁶)CON(R⁶)-;

W is -C(R⁶)₂O-, -C(R⁶)₂S-, -C(R⁶)₂SO-, -C(R⁶)₂SO₂-, -C(R⁶)₂SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)-, -CO-, -CO₂-, -C(R⁶)OC(O)-, -C(R⁶)OC(O)N(R⁶)-, -C(R⁶)₂N(R⁶)CO-,

-C(R⁶)₂N(R⁶)C(O)O-, -C(R⁶)=NN(R⁶)-, -C(R⁶)=N-O-, -C(R⁶)₂N(R⁶)N(R⁶)-,
-C(R⁶)₂N(R⁶)SO₂N(R⁶)-, -C(R⁶)₂N(R⁶)CON(R⁶)-, or -CON(R⁶)-;

each R⁶ is independently selected from hydrogen or an optionally substituted C₁₋₄ aliphatic group, or two R⁶ groups on the same nitrogen atom are taken together with the nitrogen atom to form a 5-6 membered heterocycl or heteroaryl ring;

each R⁶ is independently selected from hydrogen or a C₁₋₄ aliphatic group, or two R⁶ on the same carbon atom are taken together to form a 3-6 membered carbocyclic ring;

each R⁷ is independently selected from hydrogen or an optionally substituted C₁₋₆ aliphatic group, or two R⁷ on the same nitrogen are taken together with the nitrogen to form a 5-8 membered heterocycl or heteroaryl ring; and

R⁸ is selected from -R, halo, -OR, -C(=O)R, -CO₂R, -COCOR, -NO₂, -CN, -S(O)R, -SO₂R, -SR, -N(R⁴)₂, -CON(R⁴)₂, -SO₂N(R⁴)₂, -OC(=O)R, -N(R⁴)COR, -N(R⁴)CO₂(optionally substituted C₁₋₆ aliphatic), -N(R⁴)N(R⁴)₂, -C=NN(R⁴)₂, -C=N-OR, -N(R⁴)CON(R⁴)₂, -N(R⁴)SO₂N(R⁴)₂, -N(R⁴)SO₂R, or -OC(=O)N(R⁴)₂.

2. (Original) The compound according to claim 1, wherein Q is selected from -S-, -O-, or -NH-; and said compound has one or more features selected from the group consisting of:

(a) R^x is hydrogen, alkyl- or dialkylamino, acetamido, or a C₁₋₄ aliphatic group and R^y is T-R³ or L-Z-R³, wherein T is a valence bond or a methylene and R³ is -R, -N(R⁴)₂, or -OR; or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-6 membered ring having 0-2 heteroatoms selected from oxygen, sulfur, or nitrogen, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, T-R³, or L-Z-R³, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R⁴;

(b) R¹ is T-(Ring D), wherein T is a valence bond or a methylene unit;

(c) Ring D is a 5-7 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring; and

(d) R² is -R or -T-W-R⁶ and R² is hydrogen, or R² and R² are taken together to form an optionally substituted benzo ring.

3. (Original) The compound according to claim 2, wherein:

- (a) R^x is hydrogen, alkyl- or dialkylamino, acetamido, or a C_{1-4} aliphatic group and R^y is $T-R^3$ or $L-Z-R^3$, wherein T is a valence bond or a methylene and R^3 is $-R$, $-N(R^4)_2$, or $-OR$; or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-6 membered ring having 0-2 heteroatoms selected from oxygen, sulfur, or nitrogen, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;
- (b) R^1 is $T-($ Ring D $)$, wherein T is a valence bond or a methylene unit;
- (c) Ring D is a 5-7 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring; and
- (d) R^2 is $-R$ or $-T-W-R^6$ and R^2' is hydrogen, or R^2 and R^2' are taken together to form an optionally substituted benzo ring.

4. (Original) The compound according to claim 2, wherein said compound has one or more features selected from the group consisting of:

- (a) R^y is $T-R^3$ or $L-Z-R^3$ wherein T is a valence bond or a methylene and R^3 is selected from $-R$, $-OR$, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocycl, phenyl, or 5-6 membered heteroaryl; or R^x and R^y are taken together with their intervening atoms to form a benzo, pyrido, cyclopento, cyclohexo, cyclohepto, thieno, piperidino, or imidazo ring, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;
- (b) R^1 is $T-($ Ring D $)$, wherein T is a valence bond, and Ring D is a 5-6 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring;
- (c) R^2 is $-R$ and R^2' is hydrogen, wherein R is selected from hydrogen, C_{1-6} aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring; and
- (d) R^3 is selected from $-R$, $-halo$, $-OR$, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocycl, phenyl, or 5-6 membered heteroaryl, and L is $-O-$, $-S-$, or $-N(R^4)-$.

5. (Original) The compound according to claim 4, wherein:

- (a) R^y is $T-R^3$ or $L-Z-R^3$ wherein T is a valence bond or a methylene and R^3 is selected from $-R$, $-OR$, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl; or R^x and R^y are taken together with their intervening atoms to form a benzo, pyrido, cyclopento, cyclohexo, cyclohepto, thieno, piperidino, or imidazo ring, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;
- (b) R^1 is $T-(\text{Ring D})$, wherein T is a valence bond, and Ring D is a 5-6 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring;
- (c) R^2 is $-R$ and R^2' is hydrogen, wherein R is selected from hydrogen, C_{1-6} aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring; and
- (d) R^3 is selected from $-R$, -halo, $-OR$, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl, and L is $-O-$, $-S-$, or $-N(R^4)-$.

6. (Original) The compound according to claim 4, wherein said compound has one or more features selected from the group consisting of:

- (a) R^x is hydrogen methyl, ethyl, propyl, cyclopropyl, isopropyl, methylamino or acetamido and R^y is selected from 2-pyridyl, 4-pyridyl, pyrrolidinyl, piperidinyl, morpholinyl, piperazinyl, methyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkoxyalkylamino, alkoxyalkyl, alkyl- or dialkylamino, alkyl- or dialkylaminoalkoxy, acetamido, optionally substituted phenyl, or methoxymethyl; or R^x and R^y are taken together with their intervening atoms to form a benzo, pyrido, piperidino, or cyclohexo ring, wherein said ring is optionally substituted with -halo, $-R$, $-OR$, $-COR$, $-CO_2R$, $-CON(R^4)_2$, $-CN$, $-O(CH_2)_{2-4}N(R^4)_2$, $-O(CH_2)_{2-4}R$, $-NO_2$, $-N(R^4)_2$, $-NR^4COR$, $-NR^4SO_2R$, or $-SO_2N(R^4)_2$, wherein R is hydrogen or an optionally substituted C_{1-6} aliphatic group;
- (b) R^1 is $T-(\text{Ring D})$, wherein T is a valence bond and Ring D is a 5-6 membered aryl or heteroaryl ring optionally substituted with one or two groups selected from -

halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C₁₋₆ aliphatic, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -N(R⁴)CO₂R, -SO₂N(R⁴)₂, -N(R⁴)SO₂R, -N(R⁶)COCH₂N(R⁴)₂, -N(R⁶)COCH₂CH₂N(R⁴)₂, or -N(R⁶)COCH₂CH₂CH₂N(R⁴)₂;

- (c) R² is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C₁₋₆ aliphatic group, and R² is hydrogen; and
- (d) R³ is selected from -R, -OR, or -N(R⁴)₂, wherein R is selected from hydrogen, C₁₋₆ aliphatic, 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl, and L is -O-, -S-, or -NH-; and
- (e) Ring D is substituted by up to three substituents selected from -halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C₁₋₆ aliphatic group, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -N(R⁴)CO₂R, -SO₂N(R⁴)₂, -N(R⁴)SO₂R, -N(R⁶)COCH₂N(R⁴)₂, -N(R⁶)COCH₂CH₂N(R⁴)₂, or -N(R⁶)COCH₂CH₂CH₂N(R⁴)₂, wherein R is selected from hydrogen, C₁₋₆ aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring.

7. (Original) The compound according to claim 1, wherein Q is -C(R⁶)₂-, 1,2-cyclopropanediyl, 1,2-cyclobutanediyl, or 1,3-cyclobutanediyl; and said compound has one or more features selected from the group consisting of:

- (a) R^x is hydrogen, alkyl- or dialkylamino, acetamido, or a C₁₋₄ aliphatic group and R^y is T-R³ or L-Z-R³, wherein T is a valence bond or a methylene and R³ is -R, -N(R⁴)₂, or -OR; or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-6 membered ring having 0-2 heteroatoms selected from oxygen, sulfur, or nitrogen, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, T-R³, or L-Z-R³, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R⁴;
- (b) R¹ is T-(Ring D), wherein T is a valence bond or a methylene unit and wherein said methylene unit is optionally replaced by -O-, -NH-, or -S-;
- (c) Ring D is a 5-7 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring; and

(d) R^2 is $-R$ or $-T-W-R^6$ and $R^{2'}$ is hydrogen, or R^2 and $R^{2'}$ are taken together to form an optionally substituted benzo ring.

8. (Original) The compound according to claim 7, wherein:

(a) R^x is hydrogen, alkyl- or dialkylamino, acetamido, or a C_{1-4} aliphatic group and R^y is $T-R^3$ or $L-Z-R^3$, wherein T is a valence bond or a methylene and R^3 is $-R$, $-N(R^4)_2$, or $-OR$; or R^x and R^y are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-6 membered ring having 0-2 heteroatoms selected from oxygen, sulfur, or nitrogen, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;

(b) R^1 is $T-(Ring D)$, wherein T is a valence bond or a methylene unit and wherein said methylene unit is optionally replaced by $-O-$, $-NH-$, or $-S-$;

(c) Ring D is a 5-7 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring; and

(d) R^2 is $-R$ or $-T-W-R^6$ and $R^{2'}$ is hydrogen, or R^2 and $R^{2'}$ are taken together to form an optionally substituted benzo ring.

9. (Original) The compound according to claim 7, wherein Q is $-C(R^6)_2-$ or 1,2-cyclopropanediyl, and said compound has one or more features selected from the group consisting of:

(a) R^y is $T-R^3$ or $L-Z-R^3$ wherein T is a valence bond or a methylene and R^3 is selected from $-R$, $-OR$, or $-N(R^4)_2$, wherein R is selected from hydrogen, C_{1-6} aliphatic, or 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl; or R^x and R^y are taken together with their intervening atoms to form a benzo, pyrido, cyclopento, cyclohexo, cyclohepto, thieno, piperidino, or imidazo ring, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;

(b) R^1 is $T-(Ring D)$, wherein T is a valence bond, and Ring D is a 5-6 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring;

- (c) R^2 is $-R$ and $R^{2'}$ is hydrogen, wherein R is selected from hydrogen, C₁₋₆ aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring; and
- (d) R^3 is selected from $-R$, -halo, -OR, or $-N(R^4)_2$, wherein R is selected from hydrogen, C₁₋₆ aliphatic, or 5-6 membered heterocycl, phenyl, or 5-6 membered heteroaryl, and L is $-O-$, $-S-$, or $-N(R^4)-$.

10. (Original) The compound according to claim 9, wherein:

- (a) R^y is $T-R^3$ or $L-Z-R^3$ wherein T is a valence bond or a methylene and R^3 is selected from $-R$, -OR, or $-N(R^4)_2$, wherein R is selected from hydrogen, C₁₋₆ aliphatic, or 5-6 membered heterocycl, phenyl, or 5-6 membered heteroaryl; or R^x and R^y are taken together with their intervening atoms to form a benzo, pyrido, cyclopento, cyclohexo, cyclohepto, thieno, piperidino, or imidazo ring, wherein each substitutable ring carbon of said fused ring formed by R^x and R^y is independently substituted by oxo, $T-R^3$, or $L-Z-R^3$, and each substitutable ring nitrogen of said ring formed by R^x and R^y is independently substituted by R^4 ;
- (b) R^1 is $T-(\text{Ring D})$, wherein T is a valence bond, and Ring D is a 5-6 membered monocyclic or an 8-10 membered bicyclic aryl or heteroaryl ring;
- (c) R^2 is $-R$ and $R^{2'}$ is hydrogen, wherein R is selected from hydrogen, C₁₋₆ aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring; and
- (d) R^3 is selected from $-R$, -halo, -OR, or $-N(R^4)_2$, wherein R is selected from hydrogen, C₁₋₆ aliphatic, or 5-6 membered heterocycl, phenyl, or 5-6 membered heteroaryl, and L is $-O-$, $-S-$, or $-N(R^4)-$.

11. (Original) The compound according to claim 9, wherein Q is $-CH_2-$ and said compound has one or more features selected from the group consisting of:

- (a) R^x is hydrogen methyl, ethyl, propyl, cyclopropyl, isopropyl, methylamino or acetamido and R^y is selected from 2-pyridyl, 4-pyridyl, pyrrolidinyl, piperidinyl, morpholinyl, piperazinyl, methyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkoxyalkylamino, alkoxyalkyl, alkyl- or dialkylamino, alkyl- or dialkylaminoalkoxy, acetamido, optionally substituted phenyl, or methoxymethyl; or R^x and R^y are taken together with their intervening atoms to

form a benzo, pyrido, piperidino, or cyclohexo ring, wherein said ring is optionally substituted with -halo, -R, -OR, -COR, -CO₂R, -CON(R⁴)₂, -CN, -O(CH₂)₂₋₄-N(R⁴)₂, -O(CH₂)₂₋₄-R, -NO₂, -N(R⁴)₂, -NR⁴COR, -NR⁴SO₂R, or -SO₂N(R⁴)₂, wherein R is hydrogen or an optionally substituted C₁₋₆ aliphatic group;

- (b) R¹ is T-(Ring D), wherein T is a valence bond and Ring D is a 5-6 membered aryl or heteroaryl ring optionally substituted with one or two groups selected from -halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C₁₋₆ aliphatic, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -N(R⁴)CO₂R, -SO₂N(R⁴)₂, -N(R⁴)SO₂R, -N(R⁶)COCH₂N(R⁴)₂, -N(R⁶)COCH₂CH₂N(R⁴)₂, or -N(R⁶)COCH₂CH₂CH₂N(R⁴)₂;
- (c) R² is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C₁₋₆ aliphatic group, and R² is hydrogen; and
- (d) R³ is selected from -R, -OR, or -N(R⁴)₂, wherein R is selected from hydrogen, C₁₋₆ aliphatic, 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl, and L is -O-, -S-, or -NH-; and
- (e) Ring D is substituted by up to three substituents selected from -halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C₁₋₆ aliphatic group, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -N(R⁴)CO₂R, -SO₂N(R⁴)₂, -N(R⁴)SO₂R, -N(R⁶)COCH₂N(R⁴)₂, -N(R⁶)COCH₂CH₂N(R⁴)₂, or -N(R⁶)COCH₂CH₂CH₂N(R⁴)₂, wherein R is selected from hydrogen, C₁₋₆ aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring.

12. (Original) The compound according to claim 11, wherein:

- (a) R^x is hydrogen methyl, ethyl, propyl, cyclopropyl, isopropyl, methylamino or acetamido and R^y is selected from 2-pyridyl, 4-pyridyl, pyrrolidinyl, piperidinyl, morpholinyl, piperazinyl, methyl, ethyl, cyclopropyl, isopropyl, t-butyl, alkoxyalkylamino, alkoxyalkyl, alkyl- or dialkylamino, alkyl- or dialkylaminoalkoxy, acetamido, optionally substituted phenyl, or methoxymethyl; or R^x and R^y are taken together with their intervening atoms to form a benzo, pyrido, piperidino, or cyclohexo ring, wherein said ring is optionally substituted with -halo, -R, -OR, -COR, -CO₂R, -CON(R⁴)₂, -CN,

-O(CH₂)₂₋₄-N(R⁴)₂, -O(CH₂)₂₋₄-R, -NO₂ -N(R⁴)₂, -NR⁴COR, -NR⁴SO₂R, or -SO₂N(R⁴)₂, wherein R is hydrogen or an optionally substituted C₁₋₆ aliphatic group;

(b) R¹ is T-(Ring D), wherein T is a valence bond and Ring D is a 5-6 membered aryl or heteroaryl ring optionally substituted with one or two groups selected from -halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C₁₋₆ aliphatic, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -N(R⁴)CO₂R, -SO₂N(R⁴)₂, -N(R⁴)SO₂R, -N(R⁶)COCH₂N(R⁴)₂, -N(R⁶)COCH₂CH₂N(R⁴)₂, or -N(R⁶)COCH₂CH₂CH₂N(R⁴)₂;

(c) R² is hydrogen or a substituted or unsubstituted group selected from aryl, heteroaryl, or a C₁₋₆ aliphatic group, and R^{2'} is hydrogen; and

(d) R³ is selected from -R, -OR, or -N(R⁴)₂, wherein R is selected from hydrogen, C₁₋₆ aliphatic, 5-6 membered heterocyclyl, phenyl, or 5-6 membered heteroaryl, and L is -O-, -S-, or -NH-;

(e) Ring D is substituted by up to three substituents selected from -halo, -CN, -NO₂, -N(R⁴)₂, optionally substituted C₁₋₆ aliphatic group, -OR, -C(O)R, -CO₂R, -CONH(R⁴), -N(R⁴)COR, -N(R⁴)CO₂R, -SO₂N(R⁴)₂, -N(R⁴)SO₂R, -N(R⁶)COCH₂N(R⁴)₂, -N(R⁶)COCH₂CH₂N(R⁴)₂, or -N(R⁶)COCH₂CH₂CH₂N(R⁴)₂, wherein R is selected from hydrogen, C₁₋₆ aliphatic, phenyl, a 5-6 membered heteroaryl ring, or a 5-6 membered heterocyclic ring.

13. (Original) A composition comprising a compound according to any one of claims 1-12, and a pharmaceutically acceptable carrier.

14. (Cancelled).

15. (Original) A method of inhibiting Aurora-2 or GSK-3 activity in a biological sample comprising the step of contacting said biological sample with a compound according to any one of claims 1-12.

16. (Currently Amended) A method of inhibiting Aurora-2 activity in a patient in need of such a treatment comprising the step of administering to said patient a composition according to claim 13.

17-21. (Cancelled).

22. (Original) A method of inhibiting GSK-3 activity in a patient comprising the step of administering to said patient a composition according to claim 13.

23. (Cancelled).

24. (Cancelled).

25. (Cancelled).

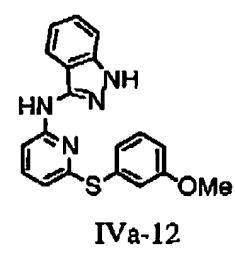
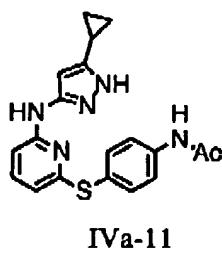
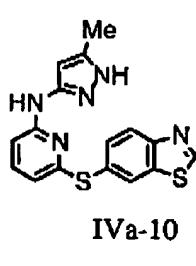
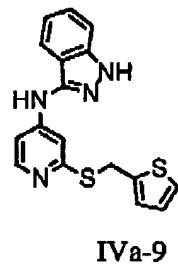
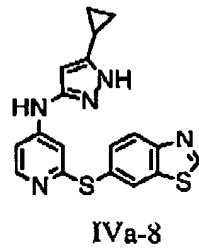
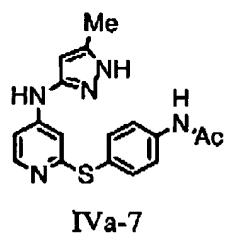
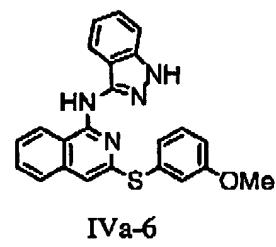
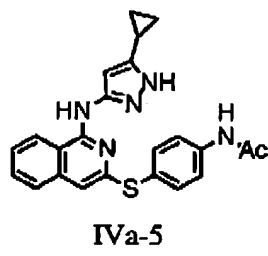
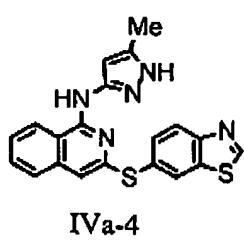
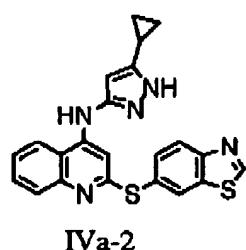
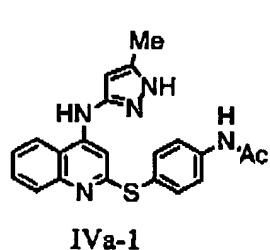
26. (Currently Amended) The method according to claim 24 22, wherein the method is for treating diabetes.

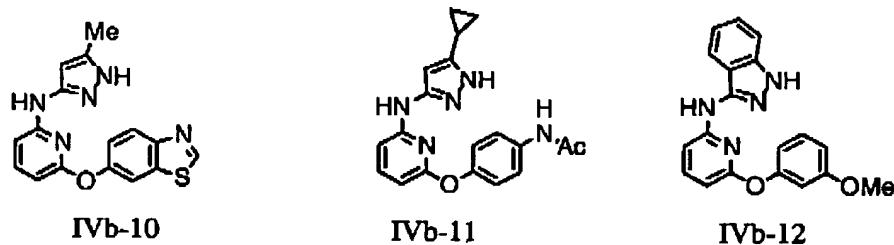
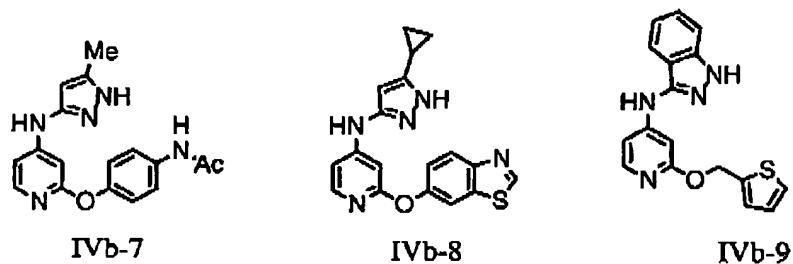
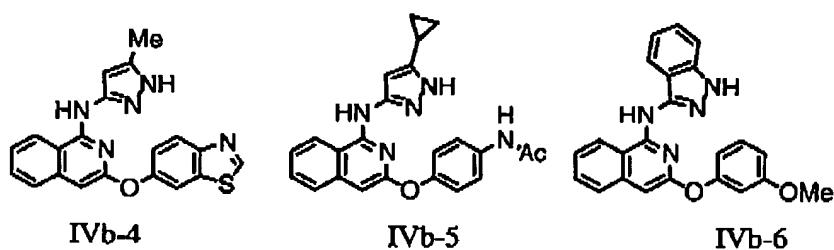
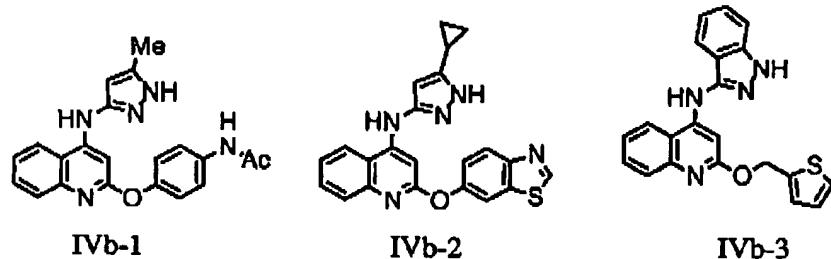
27. (Original) A method of enhancing glycogen synthesis or lowering blood levels of glucose in a patient in need thereof, which method comprises administering to said patient a therapeutically effective amount of a composition according to claim 13.

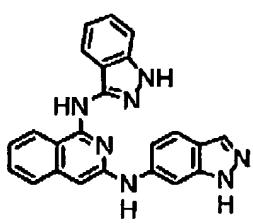
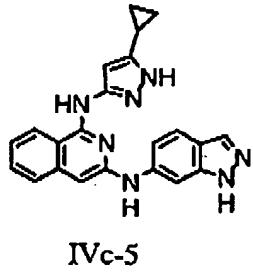
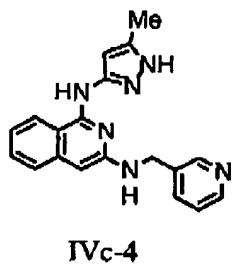
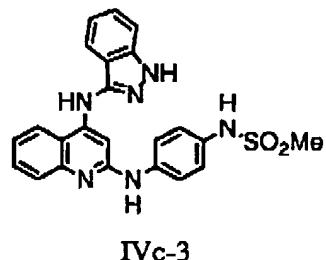
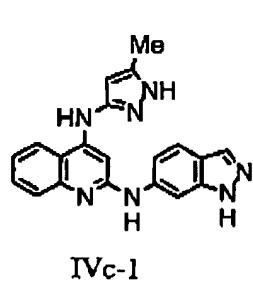
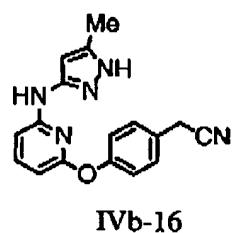
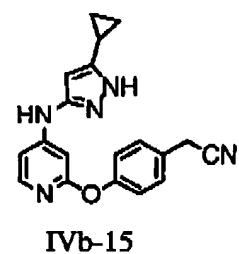
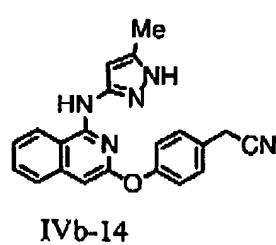
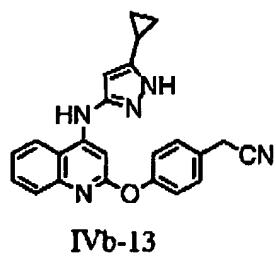
28. (Original) A method of inhibiting the production of hyperphosphorylated Tau protein in a patient, which method comprises administering to a patient in need thereof a therapeutically effective amount of a composition according to claim 13.

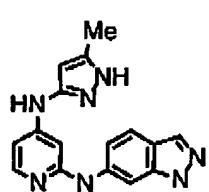
29. (Original) A method of inhibiting the phosphorylation of β -catenin, which method comprises administering to a patient in need thereof a therapeutically effective amount of a composition according to claim 13.

30. (New) The compound according to claim 1, wherein the compound is:

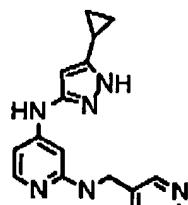








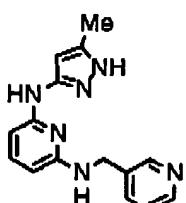
IVc-7



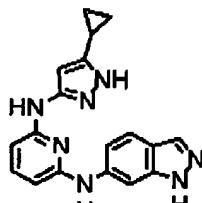
IVc-8



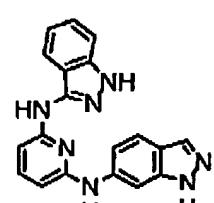
IVc-9



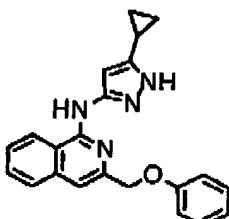
IVc-10



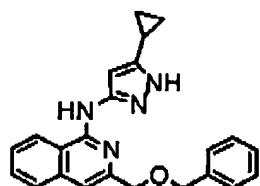
IVc-11



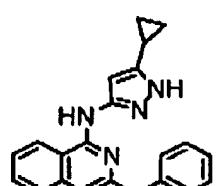
IVc-12



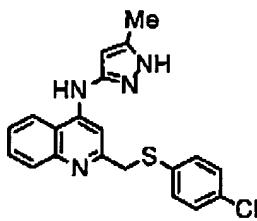
IVd-1



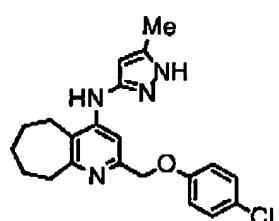
IVd-2



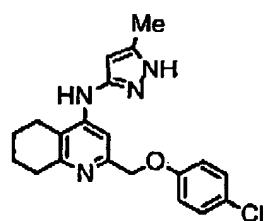
IVd-3



IVd-4



IVd-5



IVd-6

